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Strengthening Early Awareness and Response Systems of Covid 19 Risk Assessment with The Personal InaRISK Application

Abdul Hakim Zakkiy Fasya[1], Priyo Mukti Pribadi Winoto[2], Dwi Handayani[1], Mursyidul Ibad[1], Nur Masruroh[3], Dayu Satriya Wibawa[4]

[1] *Departement of Public Health, Faculty of health, Universitas Nahdlatul Ulama Surabaya, East Java, Indonesia*
[2] *Departement of Nursing, Faculty of Nursing and Midwifery, Universitas Nahdlatul Ulama Surabaya, East Java, Indonesia*
[3] *Departement of Midwifery, Faculty of Nursing and Midwifery, Universitas Nahdlatul Ulama Surabaya, East Java, Indonesia*
[4] *Departement of Medicine, Faculty of Medicine, Universitas Nahdlatul Ulama Surabaya, East Java, Indonesia*

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CORRESPONDENCE

E-mail: abdul.hakim@unusa.ac.id

A B S T R A C T

The limited management of the surveillance system in Trenggalek caused the absence of early warning alert and response system (EWARS) when the infectious disease situation leads to outbreaks. Currently, there were still many confusing issues related to Covid19, which caused paranoia in community. Early detection and immediate treatment will be difficult to be conducted as prevention of severity. This activity ued the InaRISK Personal application, participants were invited to perform independent assessment of Covid19 transmission risks. Providing materials, mentoring, and evaluating. The results found that participants acknowledge the benefit of the application usage in awareness and preventing the transmission of Covid19. However, there were still complaints about application operations, such as disturbances, errors, and difficulty in determining the location point. Therefore, it is necessary to improve the functions and features of the application. In terms of difficulty filling in the assessment data, slow response apps, sometimes the application is lagged, not responsive when shifting location pins and menus that cannot be select. Besides the problems, users stated that the InaRISK application was very helpful in recognizing dangers in the surrounding environment, especially information on Covid19 cases.

INTRODUCTION

The Covid-19 pandemic forces all elements of state participants, from leaders to the community to participate in efforts to prevent and control the spread of the virus (Zahrotunnimah, 2020). Simultaneous education that has been implemented in the community should be supported by each community self-awareness to detect symptoms and report their condition immediately. Therefore, that it can be an early warning for the surrounding area (Fadila, Akmal, & KM, 2020).

The implementation of early warning and response in the working area of the Trenggalek health center has been carried out as follows: 1) Cadres report case findings to the person in charge of the surveillance program; 2) The person in charge of the program recapitulates the report in 1 week; 3) The person in charge of the program inputs report data from cadres via SMS or directly fills out the form on the Ministry of Health website.

A weekly reports that had been recapitulated cannot provide a warning/alert whether any indication the case severity. Therefore, a system that provide dynamic and real-time data updates is needed, so that case developments can immediately noticed (Fasya, Adriansyah, & Handayani, 2020).

The early warning system was implemented in Trenggalek to prevent disease transmission was done manually with weekly case recapitulation. The system used is still web-based with weekly reporting. Data input is only done by surveillance officers at the health center level. This resulted in the delayed public case reports for 1 week for the data to appear in the ministry so that it is only known whether there was an emergency case or not after 1 week (Anggraini, 2017).

In addition, the Trenggalek community does not yet know the steps to carry out independent assessments to detect symptoms and the level of disease risk experienced, especially during this pandemic the symptoms are due to Covid19. The mislead information circulating in WhatsApp groups causes information bias and unrest in the Trenggalek community. This misinformation has even resulted in some people experiencing trauma and excessive fear, thus closing themselves off from Covid-19 information. If this condition is left unchecked, it will be increasingly difficult to grow independent awareness of each element of society to participate in efforts to prevent the transmission of Covid19 (Juditha, 2020). Therefore, this research aimed to analyze the function of InaRISK Personal Application, to strengthening early awareness and response systems, regarding Covid19 prevention.

METHOD

The participants were invited to perform an independent assessment of the risk of Covid-19 transmission using the InaRISK Personal application. This was implemented by providing materials, mentoring, and evaluating.

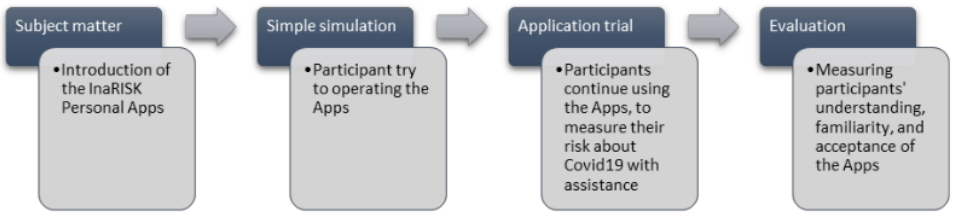

Figure 01. The Research Roadmap

2.1 Subject matter

The initial stage was the introduction of the application to participants using a video description. The video contents were explained about the application history, functions, and benefits. The video also described how the personal InaRISK application works.

2.2 Simple simulation

The next step was a simulation. Participants were asked to operate the application, starting from downloading the application on their respective gadgets, registering, testing the features contained in the application, and did a personal assessment.

2.3 Application trial

Participants tested the application within 1 month, with assistance. Mentoring was carried out in stages, starting with full mentoring, then reducing the frequency of mentoring within a week.

2.4 Evaluation

The cumulative evaluation showed participants' understanding, familiarity, and acceptance of the InaRISK application. This information used as data in the future for other activities for participants that use the InaRISK application.

RESULT AND DISCUSSION

InaRISK Personal is an application contains the level of danger information in an area and is equipped with recommendations for action to anticipate it in a participatory manner. This application was developed jointly by the government and other parties who had experience in disaster education in Indonesia. This application was developed by the National Disaster Management Agency with support from the Ministry of Energy and Mineral Resources, the Ministry of Public Works and Public Housing, and the Meteorology, Climatology, and Geophysics Agency as well as other institutions, especially in providing data (Sari, Komalasari, & Kanegae, 2020).

InaRISK Personal will be developed continuously and evolve to meet the needs of updating data, information, and methodologies that provide benefits to the community. Hopefuly that with this application, the Indonesian nation could become resilient in facing disasters (Sufiyanto, Yuniarti, & Andrijono, 2020).

3.1 Subject matter

InaRISK is a risk assessment portal that uses an arcgis server as a data service that describes the coverage of disaster threat areas, affected populations, potential physical losses (IDR), potential economic losses (IDR), and potential environmental damage (acre) and integrated with the realization of the implementation of reduction activities. Disaster risk as a monitoring tool for reducing the disaster risk index. InaRISK had officially launched by the Head of the National Disaster Management Agency on November 10, 2016. The launch of the application was also attended by Ministries/Agencies, representatives from the United Nations, representatives of organizations from other donor countries (NGOs), and other relevant government institutions (Wibowo, 2020).

InaRISK is expected to be used by all parties, including the community, in preparing disaster management plans. Apart from being a portal for sharing spatial data in the form of GIS services, it is also a tool for disseminating the results of disaster risk studies to the Government, Local Government, and other stakeholders as a basis for planning disaster programs. Assist the Government, Regional Government, and other parties in formulating strategies for implementing programs, policies, and activities to reduce disaster risk at the national to regional levels. Assist the Government in monitoring the achievement of reducing the disaster risk index in Indonesia (Syahputra & Sari, 2021).

During the Covid19 pandemic, the InaRISK application was developed by bringing up the Covid19 disaster option. This application serves to find out the dangers of Covid-19 to individual and the surrounding environment. While at home, the public can conduct an independent assessment regarding the need or not to carry out a Covid19 rapid test through the InaRISK application created by the National Disaster Management Agency, which was appointed by President Joko Widodo to be the Task Force for the Acceleration of Handling Covid19. Through this application, users can fill in several questions according to the available categories, namely personal, family, and village (Simanjuntak, Octavia, & Romayanti, 2021).

In filling out the personal category, there are 21 question points related to personal behavior and habits, the potential for an infection inside and outside the home, the use of public transportation, masks, endurance, or immunity. Furthermore, in the next category, namely family, users will be asked to fill in answers related to knowledge about Covid19 for family members, to their living environment. Then, the application also ask the explanation regarding family habits, plans, capacities including any family members who are considered vulnerable such as old age or suffering from a chronic disease (Wibowo, 2020).

Meanwhile, in the village category, 21 questions include village preparedness, availability of volunteers, to forms of prevention that have been carried out such as the existence of isolation rooms, spraying disinfectants, washing hands, and others. After the user fills out several questions, later the user will get information related to their respective risk levels. The National Disaster Management Agency requests that application users fill out data and questions honestly to get the right recommendations. This application also guarantees that user data is confidential. Therefore, it has been hoped that the participation of the community to care for themselves, their families, and the environment in which they live to break the chain of the spread of the SARS-CoV-2 virus that causes Covid19. This application can be downloaded through the Play Store for Android and the AppStore for iOS (Sufiyanto et al., 2020).

3.2 Simple simulation

During a simple simulation, participants were enthusiastic about trying the InaRISK Personal application. Participants take steps such as follow:

a. Pay attention to the video on how to register and activate a personal InaRISK application account. Previously, participants were asked to prepare an email account and NIK to register. Assistance was carried out until all participants have successfully registered.
b. Try all the information features that the app provides. In the next step, participants were asked to try application features that provide information related to disasters and control of disease transmission, especially information related to Covid19.
c. Try to do a personal assessment. At this stage, participants were asked to fill out the form contained in the application feature, to assess the risk level of Covid-19 transmission for individuals. Participants get information on the risk conditions, as well as provide information on the application server. So that when they were known at a high risk, it can immediately give a warning/alert to the people of the area.

3.3 Application trial

Application trials carried out using regular mentoring methods. This was done based on the frequency of assistance in a week, for a month.

a. The first week, full assistance carried out every day by opening a question and answer service related to applications. On the 7th day, an evaluation of the level of understanding of the application function carried out, and participant complaints related to the application.
b. The second week, 12 hours a day assistance provided, which carried out every day, by opening a question and answer service related to applications. On the 14th day, an evaluation of the level of understanding and familiarity of participants using the application carried out.
c. In the third week, 6 hours a day assistance provided, which carried out every day, by opening a question and answer service related to applications. On day 21, an evaluation of the participants' habits and ease/difficulty using the application conducted.
d. The fourth week, mentoring is carried out 3 hours a day, which is carried out on certain days (3 days in 1 week), by opening a question and answer service related to applications. On the 28th day, an evaluation of the participants' habit of using the application and a participant satisfaction survey on the personal InaRISK application carried out.

3.4 Evaluation

Evaluation of the participants showed understanding, familiarity, and acceptance of the InaRISK application.

a. Evaluation of understanding carried out after the trial was carried out in the first and second weeks (days 7 and 14). Conducted with a pre-test and post-test to measure the participants' understanding of InaRISK. The questions were about the history, functions, and benefits. In addition, how the personal InaRISK application works.

b. Evaluation of participants' habit of using the application, was carried out from the second week (day 14), with repetition every 14 days. This evaluation carried out to review the acceptance of participants in using the InaRISK application, which supports information and independent assessments related to Covid19. Unfortunately, there were still some obstacles in operating the InaRISK Personal application. The complaint seems difficult to fill in the assessment data. Sometimes it is due to signal constraints or slow response apps. The data that had been entered could not be enter or unable to choose an option in the application field. The input system rejects the data tha user want to enter. In addition to signal problems, other users complained that this application was not responsive when shifting location pins and menus that unable to be selected.

c. Evaluation of the implementation of mentoring carried out in stages every 7 days of mentoring during the application trial, which closed in the fourth week (day 28) with an evaluation of participant satisfaction on the personal InaRISK application. From a number of complaints experienced by participants, generally users of the inaRISK Personal application stated that they were not satisfied. Still need improvement in some features and functions. Although, they realized the benefits of the application. This should be an evaluation material and must responded to immediately by BNPB, because many people also feel helped by this application.

d. Major evaluations carried out every month for 3 months of implementation. In the large evaluation, the results of the participants' risk status monitored, based on the self-assessment carried out. Table 1.1 shows the results of the risk status of participants against the potential for Covid19 transmission.

Table 1. InaRISK Personal Covid19 Input Data

ID	Risk Status		
	Month 1	Month 2	Month 3
INACOVID-1- 1594640286577	Low	Low	Low
INACOVID-1- 1594640639053	Low	Low	Low
INACOVID-1- 1594640879860	Moderate	Low	Low
INACOVID-1- 1594812802219	Moderate	Low	Low
INACOVID-1- 1594813008385	Low	Low	Low
INACOVID-1- 1595828627039	Moderate	Low	Low
INACOVID-1- 1595828874724	Low	Low	Low
INACOVID-1- 1595830072870	Low	Low	Low
INACOVID-1- 1595830267504	Low	Low	Low
INACOVID-1- 1595830784969	Low	Low	Low
INACOVID-1- 1595831089222	Low	Low	Low
INACOVID-1- 1595831243505	Low	Low	Low
INACOVID-1- 1595831437605	Low	Low	Low
INACOVID-1- 1595832454872	Low	Low	Low
INACOVID-1- 1595832601105	Low	Moderate	Low
INACOVID-1- 1596592201555	Low	Low	Low
INACOVID-1- 1596592343366	Low	Low	Low
INACOVID-1- 1596596882950	Moderate	Low	Low
INACOVID-1- 1596597090166	Low	Low	Low

INACOVID-1- 1596597316428	Low	Low	Low
INACOVID-1- 1596597591138	Low	Low	Low
INACOVID-1- 1596597784114	Moderate	Low	Low
INACOVID-1- 1596597975662	Low	Low	Low
INACOVID-1- 1596598499447	Low	Low	Low
INACOVID-1- 1596599158139	Low	Moderate	Low
INACOVID-1- 1596599303112	Moderate	Low	Low
INACOVID-1- 1596599481521	Low	Low	Low
INACOVID-1- 1596599626339	Low	Moderate	Low
INACOVID-1- 1596599736621	Moderate	Moderate	Low
INACOVID-1- 1596599849150	Low	Moderate	Low

Source: Community Empowerment Program

The self-assessment results of the risk of contracting Covid19 showed that there were fluctuations in the risk of participants. Seven participants had moderate risk status in the first month of self-assessment. This could be happened because most of the participants' activities were outside the home, because their work demands it.

In the second month, there were 6 participants who initially had moderate risk status, changed to low risk. The participants were aware of the risks they had, so they took more precautions for prevention. However, there was 1 participant who had moderate risk status. In fact, there were 4 participants from low risk status to medium risk status. This happened due to lack of awareness of participants. Because their initial assessment had a low risk status, it may lower their awareness of Covid19 prevention efforts.

At the end of the mentoring (at month 3), all participants' risk status showed a low condition. This was a good sign from the target community, in this case represented by the participants, in an effort to prevent the transmission of Covid19. The better the efforts made, the lower the status of the risk of transmission. With this condition, we hope that the public will continue to increase their vigilance and prevention efforts. What's more, there is a delta variant of the Corona virus, which has a more dangerous level of ferocity and transmission, so we must strengthen our guard.

CONCLUSION

It is necessary to improve the features and functions of the InaRISK Personal application, in terms of difficulty filling in the assessment data, slow response apps, the application is lagged occasionally, not responsive when shifting location pins and menus that unable to be selected. The problems made users operate the application uncomfortably. Users stated that the InaRISK application was very helpful in recognizing dangers in the surrounding environment, especially information on Covid19 cases. Self-assessment is very helpful for application users, with various suggestions given in preventing the transmission of Covid19.

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